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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/577,305	01/25/2007	Dieter Lehmann	P29884	5161
7055 7590 07/29/2009 GREENBLUM & BERNSTEIN, P.L.C. 1950 ROLAND CLARKE PLACE RESTON, VA 20191				
EXAMINER				
BERMAN, SUSAN W				
ART UNIT		PAPER NUMBER		
1796				
NOTIFICATION DATE		DELIVERY MODE		
07/29/2009		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

gbpatent@gbpatent.com
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Office Action Summary

Application No.

10/577,305

Applicant(s)

LEHMANN ET AL.

Examiner

/Susan W. Berman/

Art Unit

1796

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 June 2009 and 17 July 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-8508)
Paper No(s)/Mail Date 6-23-09, 7-17-09
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Information Disclosure Statement

The foreign documents cited in the IDS filed 07-17-2009 have been considered to the extent disclosed in the abstracts filed by applicant and listed in the IDS filed 1-25-3007. The document by Drobny has not been received and has not been considered. The document by Schierholz et al has already been cited.

The US Patent Applications listed under "Other Art" in the IDS filed 06-23-2009 have been lined out because the applications are not published documents suitable for citation on the face of an issued Patent.

Response to Amendment

The rejection under 35 USC 112, second paragraph with respect to the recitation "reaction...in substance" is withdrawn in response to the amendment of claim 1 to recite "reaction ...in solid".

Response to Arguments

The rejection of claims 1-4 and 7 under 35 U.S.C. 102(b) as being anticipated by D'Agostino et al (6,387,964) is withdrawn. It is agreed that D'Agostino et al do not teach radiation grafting of monomers to polytetrafluoroethylene in powder form.

The rejection of claims 8-10, 13-15, 17, 18 and 20 under 35 U.S.C. 102(b) as being anticipated by FR 2494702 is withdrawn. It is agreed that FR '702 discloses an ion exchange membrane comprising a grafted and crosslinked polytetrafluoroethylene in fabric or film form and does not disclose a polytetrafluoroethylene in powder form.

The rejections of claims under 35 U.S.C. 103(a) as being unpatentable over combinations of D'Agostino et al (6,387,964) and FR 2494702 are hereby withdrawn for the reasons stated above.

With respect to the rejections of claims under 35 USC 112: Applicant states that the homopolymers, copolymers or terpolymers are radically coupled on the surface of the polytetramethylene powder surface. However, the claims do not so specify.

New grounds of rejection are set forth herein below.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 1-7, it is not clear whether the homopolymers, copolymer or terpolymers are radically coupled "on the surface" of the homopolymer, etc or "on the surface" of the polytetrafluoroethylene powder. It is not clear what is meant by "radiation-chemically" or "plasma-chemically". What chemicals are present that result in chemical modification in addition to radiation or plasma modification? Does applicant intend to recite formation of peroxy, alkoxy and/or perfluoroalkyl radicals by exposure to radiation or plasma in air or oxygen, as set forth on page 1, lines 14-15? Is the PTFE modified by radiation or plasma to produce a chemically different polymer? Does applicant intend to set forth formation of carboxyl and/or sulfonic acid

groups as disclosed on page 2 to chemically modify the polytetramethylene powder or is the PTFE powder modified by chemicals present, such as olefinically unsaturated monomers during exposure to radiation or plasma?

In claims 8-22, it is not clear what is meant by “reacting polytetrafluoroethylene powder...with addition of ...monomers”. It is suggested that the claim recite “reacting polytetrafluoroethylene powder...with polymerizable olefinically unsaturated monomers to form homopolymers, copolymers or terpolymers radically coupled to the surface of the polytetrafluoroethylene powder”.

In claims 5 and 13, the kinds of “reactants” present during the modification should be clearly set forth. Are the reactants the chemicals that modify the PTFE powder? Are the reactants the olefinically unsaturated monomers that form a homopolymers, copolymer or terpolymer?

In claims 1, 8 and 9, the phrase “ at least one of radiation-chemically and plasma-chemically modified polytetrafluoroethylene powder” should read “ at least one of radiation-chemically or plasma-chemically modified polytetrafluoroethylene powder”.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(c) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an

international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 1, as written, requires a polytetrafluoroethylene polymeric powder product having polymers radically bonded to the surface. While the claim sets forth that the PTFE powder is radiation-chemically modified or plasma-chemically modified and that the polymers are bonded via a reaction in dispersion or solid, the claim reads on a polytetrafluoroethylene polymeric powder having polymers radically bonded to the surface produced by a different method.

Claims 1-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Molinski et al (4,385,130). Molinski et al disclose grafting monomers such as styrene and maleic anhydride to polytetrafluoroethylene powder by irradiation of the materials in a suspension. See Examples 6-8 and 13-18. A gamma radiation dose of 1.125 Mrad, or 11.25 kGy, was employed. The instant claims recite radiation or plasma modifying processes that are not disclosed by the reference; however, the instant claims are drawn to the product. Therefore, the claims are considered to be anticipated in the absence of evidence to show that grafted fluoropolymers having different structures of properties are obtained because of the differences in the methods disclosed and the methods recited in the instant claims.

Claims 1-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Wozny et al (6,040,370). Wozny et al disclose a fluoropolymer additive produced by emulsion polymerization of monoethylenically unsaturated monomers in the presence of a fluoropolymer dispersion wherein the fluoropolymer additive is in the form of a free-flowing powder (column

5, line 63, to column 6, line 54). Example 45 discloses a free flowing powder produced by reaction of styrene/acrylonitrile with a dispersion of PTFE particles in water in the presence of cumene hydroperoxide. Examples 47-50 disclose mixing a PTFE additive, such as the Example 45 powder, with an ABS resin by melt-mixing. The instant claims recite radiation or plasma modifying processes that are not disclosed by the reference, however, the claims are drawn to the product. Therefore, the claims are considered to be anticipated in the absence of evidence to show that grafted fluoropolymers having different structures of properties are obtained because of the differences in the methods disclosed and the methods recited in the instant claims.

Claims 1-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Kerbow et al (5,576,106). Kerbow et al disclose surface grafted fluoropolymer powders (column 4, lines 50-59). The fluoropolymers are in finely-divided particulate form for grafting. Grafting monomers are taught in column 4, lines 1-14. Irradiation of the fluoropolymer in the presence of the monomer is disclosed with 2-6 Mrad (column 4, lines 21-22, column 5, lines 1-7, and the Examples).

Claims 1-7 are rejected under 35 U.S.C. 102(e) as being anticipated by Coates et al (6,824,872). Coates et al disclose fluoropolymer powder particles surface treated by coating with macromolecules to change the chemical functionality. Treatment with a macromolecular chemical species and an atmospheric plasma treatment or radiation treatment is taught. See column 2, line 46, to column 3, line 16, column 4, lines 14-21, column 4, line 50, to column 5, line 3.

The burden is hereby shifted to applicant to establish by effective argument and/or objective evidence that the prior art product(s) or process(es) do not necessarily possess the characteristics of the claimed products or processes. Note *In re Marosi*, 710 F.2d 799, 218 USPQ 289 (Fed. Cir. 1983) and *In re Thorpe*, 777 F.2d 695, 227 USPQ 964 (Fed. Cir. 1985). See MPEP 2113. The reference teaches a product that appears to be the same as, or an obvious variant of, the product set forth in the product by process claim, although produced by a different process. Note *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990), "When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not".

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-22 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-26 of copending Application No. 10/577,300. Although the conflicting claims are not identical, they are not patentably distinct from each other because the instantly claimed polytetrafluoroethylene is a species of the perfluoropolymer set forth in the claims of 10/577300 which include claim 5 reciting PTFE. It would have been obvious to one skilled in the art at the time of the invention to employ PTFE as the perfluoropolymer in the claimed product or method of 10/577,300.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims 1-22 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-20 of copending Application No. 10/577,619. Although the conflicting claims are not identical, they are not patentably distinct from each other because the instant claims recite a radically coupled PTFE that includes PTFE radically coupled with polymers that encompass the species of radically coupled PTFE polymers coupled with olefinically unsaturated polymers set forth in the claims of '619.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Pellegrini (4,287,032) discloses a pulverulent electroconductive material bonded with a fluorocarbon polymer having a hydrophilic surface. Irradiation of PTFE powder in a finely divided crystalline state in air is taught (column 4, line 35, to column 5, line 9). Grafted polymers on the surface of the irradiated PTFE are not mentioned.

Morra et al (6,632,470) disclose methods for surface modification of polymeric devices by exposure to a reactive gas and plasma energy to create a plasma deposited surface (column 4, lines 11-25, and column 7, lines 4-17).

GB 1516648 discloses plasma treatment of PTFE powder to create free radicals on the surface of the powder (page 2, lines 6-25).

Kamel et al (5,260,093) disclose a process for modifying the surface of a substrate, such as a lens, by radio-frequency plasma induced grafting a biocompatible polymer onto the substrate surface, such as polytetrafluoroethylene. Biocompatible polymers include polyacrylates and polyesters. See column 4, line 36, to column 5, line 5, column 5, lines 54-59

Derbyshire (4,220,511) discloses irradiation of PTFE in oxygen or in air in a range of 45 Mrads to 200 Mrads, with concurrent or subsequent heating, to produce PTFE powder having an average size less than 10 microns. Derbyshire teaches that irradiation produces oxidized or peroxidized PTFE (column 15, line 66, to column 16, line 10). Derbyshire does not mention grafting but teaches that the powders produced can be used in various fabrication processes (column 1, lines 13-16).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to /Susan W. Berman/ whose telephone number is 571 272 1067. The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571 272 1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SB
7/22/2009

/Susan W Berman/
Primary Examiner
Art Unit 1796